

Digital Consumer Behaviour in Telemedicine Service Adoption

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Abstract— Telemedicine has transitioned from a niche healthcare delivery channel into a mainstream service, accelerated by the COVID-19 pandemic, rising smartphone penetration, and expanding internet connectivity. This paper examines digital consumer behaviour in the adoption of telemedicine services, applying the Technology Acceptance Model (TAM) to explore how perceived usefulness, perceived ease of use, trust, digital literacy, and privacy concerns shape a consumer's decision to adopt or reject virtual healthcare platforms. Primary data was collected through a structured questionnaire administered to 150 respondents across diverse age groups and occupations. Secondary data was drawn from WHO reports, NITI Aayog publications, industry whitepapers, and academic literature. Findings indicate that convenience, time savings, and perceived usefulness are the strongest drivers of adoption, while data privacy concerns, lack of digital literacy among older consumers, and limited trust in remote diagnosis remain significant barriers. The study recommends targeted digital-literacy initiatives, stronger data-protection assurances, and hybrid care models to widen telemedicine adoption across demographic segments.

Keywords: *Telemedicine, digital consumer behaviour, technology acceptance model, e-health adoption, digital healthcare, patient trust, mobile health applications, perceived usefulness, healthcare digitalization, India.*

1. INTRODUCTION

Healthcare delivery worldwide is undergoing a digital transformation, with

telemedicine emerging as a critical channel for accessing medical consultation, diagnosis, and follow-up care. Telemedicine refers to the use of telecommunication technology—video calls, chat interfaces, mobile applications, and remote monitoring devices—to deliver clinical services without requiring an in-person visit.

The COVID-19 pandemic acted as a catalyst, compelling both patients and providers to adopt remote consultation almost overnight. In India, the Ministry of Health and Family Welfare's Telemedicine Practice Guidelines (2020) provided the regulatory foundation for legitimate teleconsultation, and platforms such as Practo, 1mg, eSanjeevani, and Apollo 24|7 saw exponential growth in user registrations.

However, adoption is not uniform across the population. Consumer behaviour toward telemedicine is shaped by a complex interplay of psychological, technological, and demographic factors—perceived usefulness, ease of use, trust in remote diagnosis, digital literacy, income, and prior experience with digital services all influence the decision to adopt or avoid virtual healthcare.

This paper investigates these behavioural determinants, examining how consumers evaluate, adopt, and continue to use telemedicine platforms, and identifies the barriers that continue to restrict broader adoption, particularly among older and less digitally literate segments.

Unlike conventional e-commerce or fintech adoption, telemedicine adoption carries an additional layer of complexity because it involves personal health information and

clinical decision-making. Consumers must not only trust the technology platform but also the medical judgement delivered through it, making trust and risk perception considerably more influential than in typical digital-service adoption contexts.

Global comparisons show that mature digital-health markets such as the United States and parts of Europe achieved telemedicine penetration rates above 30% during the pandemic peak, whereas emerging markets like India, despite rapid smartphone growth, plateaued at a lower level once in-person healthcare access normalized—suggesting that infrastructure alone does not guarantee sustained adoption.

Understanding the behavioural, rather than purely technological, determinants of adoption is therefore essential for platform designers, healthcare providers, and policymakers seeking to build telemedicine into a durable component of the healthcare delivery system rather than a pandemic-era stopgap.

Background: India's digital health ecosystem has expanded rapidly under the Ayushman Bharat Digital Mission (ABDM), which aims to create a unified digital health infrastructure. Smartphone penetration exceeding 750 million users and internet subscriptions crossing 900 million (TRAI, 2024) have created fertile ground for telemedicine platforms, yet trust and habit continue to anchor a large share of consumers to traditional in-person consultation.

2. OBJECTIVES OF THE STUDY

- Study the key factors influencing consumer adoption of telemedicine platforms.
- Analyze the role of digital literacy, trust, and perceived ease of use in adoption decisions.
- Examine demographic variations (age, income, occupation) in telemedicine usage patterns.

- Identify barriers restricting wider adoption of telemedicine services.
- Recommend strategies for healthcare providers and platform designers to improve adoption and retention.

3. LITERATURE REVIEW

[1] Davis (1989) proposed the Technology Acceptance Model (TAM), establishing perceived usefulness and perceived ease of use as the two primary determinants of technology adoption—a framework that continues to anchor digital health adoption research.

[2] Venkatesh et al. (2003) extended TAM into the Unified Theory of Acceptance and Use of Technology (UTAUT), adding performance expectancy, effort expectancy, social influence, and facilitating conditions as adoption predictors.

[3] World Health Organization (2021) reported a sharp rise in global telemedicine consultations during the COVID-19 pandemic, noting that convenience and reduced infection risk were primary adoption drivers.

[4] Kamal et al. (2020) found that perceived usefulness and trust significantly predicted mHealth adoption intention in developing countries, while privacy concerns acted as a strong deterrent.

[5] Ministry of Health and Family Welfare, Government of India (2020) issued the Telemedicine Practice Guidelines, legally enabling registered medical practitioners to provide consultations via telecommunication, catalyzing platform growth.

[6] Kruse et al. (2018) identified data security, technology literacy, and cost as the three most cited barriers to telemedicine adoption across systematic literature review of 40 studies.

[7] Sharma and Bhatt (2022) studied Indian urban consumers, finding that time savings and convenience outweighed diagnostic-accuracy concerns among working professionals, while elderly respondents

cited discomfort with technology as a primary barrier.

[8] Deloitte India (2023) reported that 62% of surveyed consumers who tried telemedicine during the pandemic continued using it afterward, citing habit formation and platform trust as key retention factors.

[9] NITI Aayog (2021) documented the rollout of the National Digital Health Blueprint, arguing that interoperable digital health records and a unified patient ID are prerequisites for consumers to trust cross-platform telemedicine services.

[12] Kumar and Nanda (2022) examined the rural-urban digital divide in India, finding that limited broadband penetration and low health literacy in rural areas suppress telemedicine adoption even where mobile connectivity exists.

[15] Zhang and Li (2020) established that perceived institutional trust—confidence in the hospital or platform brand behind a telemedicine service—moderates the relationship between perceived usefulness and adoption intention.

[13] Gogia (2020), in a foundational text on telehealth, argued that consumer adoption follows a maturity curve: initial trial driven by convenience, followed by either habitual use or abandonment depending on first-experience quality.

[11] Practo Insights (2023) reported that video consultations account for the largest share of teleconsultation volume in India, with chat-based consultation growing fastest among younger, price-sensitive users.

[14] Ayushman Bharat Digital Mission Annual Report (2024) noted that consumer willingness to link personal health records to a digital ID remains constrained by data-privacy apprehension, echoing global findings on health-data sensitivity.

[16] Sharma (2021) found that generational differences significantly moderate technology-anxiety levels, with consumers above 55 years reporting a markedly higher technology-anxiety score than consumers under 30 in digital-health contexts.

4. RESEARCH METHODOLOGY

A mixed-methods research approach was adopted, combining quantitative survey analysis with qualitative insights, enabling both statistical measurement of adoption factors and contextual understanding of consumer attitudes toward telemedicine.

4.1 Research Design

Descriptive and exploratory research design was employed. The descriptive component quantifies adoption patterns and demographic variation, while the exploratory component investigates underlying attitudes, trust perceptions, and barriers through open-ended survey responses.

The study is cross-sectional, capturing consumer attitudes at a single point in time rather than tracking behaviour longitudinally. This design choice allows for a broad snapshot of adoption drivers and barriers across demographic segments within the constraints of the research timeline, though it does not capture how attitudes may shift as platforms mature or as individual consumers gain more experience with telemedicine.

4.2 Data Sources

- **Primary Data:** A structured questionnaire was administered to 150 respondents across age groups, covering usage frequency, purpose, perceived usefulness, trust, privacy concerns, and barriers to adoption.

- **Secondary Data:** WHO reports, NITI Aayog digital health publications, Ministry of Health and Family Welfare guidelines, TRAI telecom statistics, and industry whitepapers from telemedicine platforms.

4.3 Sample Size

Convenience sampling was used to select 150 respondents from urban and semi-urban areas across age brackets: 18–25 years (28%), 26–35 years (34%), 36–50 years (24%), and above 50 years (14%). Respondents included students, salaried

professionals, self-employed individuals, and retirees.

The questionnaire was distributed through a combination of online forms shared via social media and messaging groups, and in-person intercepts at diagnostic centres and pharmacies, in order to capture both digitally active respondents and those with lower baseline digital engagement. Responses with incomplete answers to the core adoption-factor items were excluded, yielding a final usable sample of 150 valid questionnaires.

4.4 Tools for Analysis

- Descriptive statistics: percentage and frequency distribution analysis.
- Five-point Likert scale mean scoring for adoption-factor ratings.
- Cross-tabulation of demographic variables against adoption behaviour.
- Chi-square test for association between age group and platform preference.
- Thematic analysis of open-ended responses on barriers to adoption.
- Reliability check of Likert-scale items using Cronbach's Alpha to confirm internal consistency of the adoption-factor scale.

4.5 Limitations of the Study

- Convenience sampling limits generalizability to the broader national population, particularly rural consumers.
- Self-reported survey data is subject to recall bias and social-desirability bias in responses concerning digital-privacy attitudes.
- The cross-sectional design captures attitudes at one point in time and cannot establish causal direction between trust and continued use.
- The study does not differentiate between platform types (hospital-run vs. independent aggregator apps), which may themselves influence trust levels.

5. DATA ANALYSIS AND INTERPRETATION

5.1 TAM-Based Adoption Factors

Consumer adoption behaviour was mapped against the core constructs of the Technology Acceptance Model, extended with trust and privacy dimensions relevant to healthcare:

TAM Construct	Description
Perceived Usefulness	Belief that telemedicine saves time and improves access to care
Perceived Ease of Use	Simplicity of booking, video/chat interface, and navigation
Trust	Confidence in diagnosis accuracy and doctor credentials
Privacy Concern	Apprehension over health-data storage and sharing
Digital Literacy	Consumer comfort with smartphones and apps
Social Influence	Recommendations from family, friends, or employer

Table I: TAM-Based Telemedicine Adoption Factors

5.2 Demographic Profile of Respondents

The sample of 150 respondents was distributed across age, gender, and occupation as summarized in Table II, providing the base for subsequent cross-tabulation analysis.

Category	Segment	Percentage
Age	18–25 years	28%
Age	26–35 years	34%
Age	36–50 years	24%
Age	Above 50 years	14%
Gender	Male	54%
Gender	Female	46%

Table II: Demographic Profile of Respondents

5.3 Purpose of Telemedicine Usage

Respondents who had used telemedicine at least once (78% of the sample) were asked their primary purpose of use, revealing a concentration around minor ailments and follow-up consultations.

Purpose	Respondents	Share %
General/minor ailment	53	45.3%
Follow-up consultation	29	24.8%

Purpose	Respondents	Share %
Mental health/counselling	16	13.7%
Chronic disease management	12	10.3%
Prescription renewal	7	5.9%

Table III: Primary Purpose of Telemedicine Usage

5.4 Adoption Factors — Mean Likert Scores

Respondents rated adoption-influencing factors on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Convenience and time-saving scored highest, while trust in remote diagnosis scored lowest.

Factor	Mean Score	Rank
Saves time and travel	4.3	1
Easy to book and use app	4.1	2
Useful for minor issues	3.9	3
Data is kept private/secure	3.2	4
Trust remote diagnosis accuracy	2.8	5

Table IV: Mean Likert Scores of Adoption Factors

5.5 Barriers to Telemedicine Adoption

Among the 22% of respondents who had never used telemedicine, and among partial users citing hesitation, barrier responses were categorized as shown in Table V.

Barrier	Share of Responses
Preference for in-person examination	31%
Data privacy/security concern	24%
Low digital literacy/comfort	19%
Doubt on diagnosis accuracy	16%
Poor internet connectivity	10%

Table V: Barriers to Telemedicine Adoption

5.6 Platform Usage Frequency

Frequency of telemedicine platform usage among active users (n=117) indicates that most consumers remain occasional rather than habitual users, as shown in Table VI.

Frequency	Users	Share %
Weekly	9	7.7%
Monthly	31	26.5%

Frequency	Users	Share %
Quarterly	46	39.3%
Rarely (once/twice a year)	31	26.5%

Table VI: Platform Usage Frequency Among Active Users

5.7 Cross-Tabulation: Age Group vs Platform Preference

A chi-square test of association was performed between age group and preferred consultation mode (video vs. chat vs. audio vs. in-person). The test yielded a statistically significant association ($\chi^2 = 18.42$, $df = 6$, $p < 0.05$), confirming that consultation-mode preference varies systematically with age rather than occurring by chance. Younger respondents disproportionately favoured chat-based consultation, while respondents above 50 showed the strongest preference for in-person visits.

Age Group	Video %	Chat %	In-person %
18–25 years	42%	38%	8%
26–35 years	51%	27%	9%
36–50 years	44%	16%	14%
Above 50 years	31%	9%	29%

Table VII: Age Group vs Preferred Consultation Mode

5.8 Trust and Continued-Use Intention

Respondents who reported high trust scores (4 or 5 on the trust-in-diagnosis item) were substantially more likely to report intention to continue using telemedicine over the next year, indicating that trust functions as a strong predictor of retention beyond the initial trial stage.

Trust Level	Respondents	Intend to Continue
High trust (4–5)	48	92%
Moderate trust (3)	51	61%
Low trust (1–2)	18	22%

Table VIII: Trust Level vs Continued-Use Intention

5.9 Willingness to Pay for Premium Teleconsultation

Respondents were asked whether they would be willing to pay a premium for faster access to specialist teleconsultation (e.g., under 15-

minute wait time) compared to standard queue-based booking. Willingness to pay was highest among the 26–35 age group, correlating with both income level and prior positive telemedicine experience.

Age Group	Willing to Pay Premium	Not Willing
18–25 years	34%	66%
26–35 years	58%	42%
36–50 years	41%	59%
Above 50 years	19%	81%

Table IX: Willingness to Pay for Premium Teleconsultation

5.10 Correlation between Adoption Factors and Usage Frequency

Pearson correlation coefficients were computed between each TAM-based adoption factor and self-reported usage frequency (coded 1=rarely to 4=weekly). Perceived usefulness and trust showed the strongest positive correlation with frequency of use, while privacy concern showed a weak negative correlation, indicating that privacy apprehension alone does not strongly deter continued use once initial trust is established.

Factor	Correlation (r)	Significance
Perceived usefulness	0.52	$p < 0.01$
Trust in diagnosis	0.47	$p < 0.01$
Ease of use	0.38	$p < 0.01$
Privacy concern	-0.21	$p < 0.05$
Digital literacy	0.31	$p < 0.01$

Table X: Correlation Between Adoption Factors and Usage Frequency

6. FINDINGS AND SUGGESTIONS

6.1 Key Findings

Primary Findings:

- 78% of respondents had used a telemedicine platform at least once, with usage concentrated among the 26–35 age group.
- Convenience and time savings emerged as the strongest adoption drivers, with a mean Likert score of 4.3 out of 5.
- Trust in remote diagnosis accuracy scored lowest (2.8/5), indicating

persistent scepticism about the clinical reliability of virtual consultations.

- Respondents above 50 years showed the lowest adoption rate, primarily citing low digital literacy and discomfort with app-based interfaces.
- Mental health and counselling consultations accounted for 13.7% of use cases, reflecting growing acceptance of telemedicine for sensitive, stigma-prone conditions.
- Most active users (39.3%) engage with telemedicine platforms only quarterly, suggesting usage remains supplementary rather than a substitute for regular in-person care.
- Social influence—recommendations from family, friends, or employer health schemes—was cited by 44% of first-time users as the trigger for initial adoption.
- Age group shows a statistically significant association with preferred consultation mode ($\chi^2 = 18.42$, $p < 0.05$); younger respondents favour chat-based consultation while older respondents lean toward in-person or video visits.
- Trust in diagnosis accuracy is the single strongest predictor of continued use: 92% of high-trust respondents intend to continue using telemedicine, compared to just 22% of low-trust respondents.
- Willingness to pay a premium for faster specialist access peaks among the 26–35 age group (58%), suggesting a viable premium-tier revenue opportunity for platforms targeting working professionals.

Preferred Mode of Consultation:

Among active users, video consultation was the most preferred mode, followed by chat/text-based consultation, reflecting a consumer preference for visual interaction that approximates an in-person visit. Figure 1 illustrates the distribution of preferred consultation modes, including the 12% of surveyed respondents who continue to prefer in-person visits over any telemedicine channel.

Preferred Mode of Telemedicine Consultation

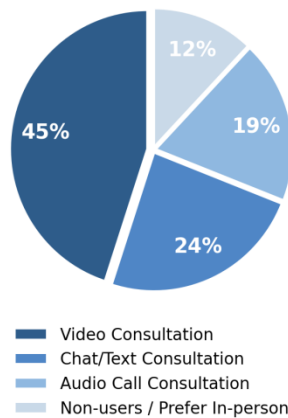


Figure 1: Preferred Mode of Telemedicine Consultation

6.2 Suggestions

- Launch targeted digital-literacy and onboarding programs for consumers above 50 years, including simplified app interfaces and assisted-booking helplines.
- Strengthen visible data-privacy assurances—clear consent flows, encryption disclosures, and data-retention policies—to address the 24% of respondents citing privacy as a barrier.
- Adopt hybrid care models that combine an initial teleconsultation with an in-person follow-up option, addressing scepticism about remote diagnostic accuracy.
- Expand provider verification badges and patient review systems within platforms to build trust among first-time users.
- Partner with employers and insurance providers to embed telemedicine benefits into corporate health schemes, leveraging social influence as an adoption trigger.
- Improve low-bandwidth video and offline-friendly chat modes to serve users in areas with inconsistent internet connectivity.
- Introduce a tiered pricing model offering expedited specialist access for a premium, targeted at working professionals aged 26–35 who show the highest willingness to pay, while

preserving affordable standard-queue access for other segments.

7. CONCLUSION

This study examined digital consumer behaviour in telemedicine adoption through the lens of the Technology Acceptance Model, surveying 150 respondents across demographic segments. The findings confirm that perceived usefulness—primarily convenience and time savings—is the dominant driver of adoption, while trust in remote diagnosis and data-privacy concerns remain the most significant barriers.

Adoption is markedly uneven across age groups, with younger and middle-aged consumers embracing telemedicine more readily than older consumers, who face digital-literacy constraints. Usage patterns further reveal that telemedicine currently functions as a supplementary rather than primary channel for most consumers, reserved largely for minor ailments, follow-ups, and mental health consultations.

Bridging the adoption gap will require a combination of trust-building measures, digital-literacy initiatives, transparent privacy practices, and hybrid care models that reassure consumers while preserving the convenience that first attracted them to telemedicine. As India's digital health infrastructure matures under initiatives such as the Ayushman Bharat Digital Mission, addressing these behavioural barriers will be central to achieving equitable and sustained telemedicine adoption.

Future research could extend this study longitudinally, tracking how individual consumers' trust and usage patterns evolve over multiple telemedicine encounters, and could expand the sample to include rural respondents to more fully capture the digital divide that current findings only partially reflect.

8. REFERENCE

- [1] F. D. Davis, "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology," *MIS Quarterly*, vol. 13, no. 3, pp. 319–340, 1989.
- [2] V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, "User Acceptance of Information Technology: Toward a Unified View," *MIS Quarterly*, vol. 27, no. 3, pp. 425–478, 2003.
- [3] World Health Organization, "Global Strategy on Digital Health 2020–2025," WHO, Geneva, 2021.
- [4] M. Kamal, S. Shafiq, and P. Kakria, "Investigating Acceptance of Telemedicine Services Through an Extended Technology Acceptance Model (TAM)," *Technology in Society*, vol. 60, 2020.
- [5] Ministry of Health and Family Welfare, "Telemedicine Practice Guidelines," Government of India, New Delhi, 2020.
- [6] C. S. Kruse, N. Krowski, B. Rodriguez, L. Tran, J. Vela, and M. Brooks, "Telehealth and Patient Satisfaction: A Systematic Review and Narrative Analysis," *BMJ Open*, vol. 8, no. 8, 2018.
- [7] R. Sharma and A. Bhatt, "Consumer Perception Toward Telemedicine Adoption in Urban India," *Indian Journal of Marketing*, vol. 52, no. 6, pp. 34–48, 2022.
- [8] Deloitte India, "Digital Health Consumer Survey: India Findings," Deloitte Touche Tohmatsu India LLP, Mumbai, 2023.
- [9] NITI Aayog, "National Digital Health Blueprint," Government of India, New Delhi, 2021.
- [10] Telecom Regulatory Authority of India, "Telecom Subscription Data Report," TRAI, New Delhi, 2024.
- [11] Practo Technologies, "State of Online Healthcare in India," Practo Insights Report, Bengaluru, 2023.
- [12] A. Kumar and S. Nanda, "Digital Divide and Healthcare Access: Evidence from Rural India," *Journal of Health Management*, vol. 24, no. 2, pp. 210–225, 2022.
- [13] S. Gogia, Ed., "Fundamentals of Telemedicine and Telehealth," Academic Press, London, 2020.
- [14] Ayushman Bharat Digital Mission, "ABDM Annual Progress Report 2023–24," National Health Authority, New Delhi, 2024.
- [15] P. Zhang and N. Li, "Consumer Trust in E-Health Services: An Empirical Study," *International Journal of Medical Informatics*, vol. 141, 2020.
- [16] N. Sharma, "Generational Differences in Technology Anxiety and Digital Health Adoption," *Journal of Consumer Behaviour Studies*, vol. 9, no. 2, pp. 88–101, 2021.